

Concept Note on "Forest - a tool for adaptation and mitigation of climate change"



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Forest is a tool for adaptation and mitigation of climate change

The Indian Forest Act, 1865 defines 'forest' as "land covered with trees, brushwood and jungle". Forests in India are treated primarily as social and environmental resource, only secondarily as commercial resource. Forest and tree cover of the country is 80.2 million hectare which is 24.39% of the total geographical area (ISFR, 2017). Major challenges being faced in forestry sector are deforestation, degradation, overgrazing, and conversion to other land uses, forest fires, excessive fuel wood collection, unsustainable harvests of non-timber forest products, weak institutions and poor governance, policy and market failures, land fragmentation and uncertain tenure, demographic and socio-economic factors as well as the impacts of globalization. Climate change is also recognized as one of the greatest challenges being faced by the forestry sector. Forests are a stabilising force for the climate. They act as both source and sink of Carbon and regulate ecosystems, protect biodiversity, play an integral part in the carbon cycle, support livelihoods, and supply goods and services that can drive sustainable growth. Climate change and forests are intrinsically linked. Where, climate change is a threat to forests and protecting forests from conversion and degradation helps mitigate the impacts of climate change.

To address climate change, the United Nations Framework Convention on Climate Change (UNFCCC) was established at the Earth Summit in Rio de Janeiro in 1992. It was followed in 1997 by the more powerful and legally binding Kyoto Protocol.

The effects of climate change and climate variability on forest ecosystems are evident around the world and further impacts are unavoidable, at least in the short to medium term. Adaptation and mitigation are the two main responses to climate change. Mitigation addresses the causes of climate change and adaptation addresses its impacts.

In the forestry sector, adaptation encompasses changes in management practices designed to decrease the vulnerability of forests to climate change and interventions intended to reduce the vulnerability of people to climate change.

Mitigation strategies in the forestry sector can be grouped into four main categories: reducing emissions from deforestation; reducing emissions from forest degradation; enhancing forest carbon sinks; and product substitution. Substitution comprises the use of wood instead of fossil fuels for energy and the use of wood fibre in place of materials such as cement, steel and aluminium, the production of which involve the emission of large quantities of greenhouse gases.

Halting the loss and degradation of forest ecosystems and promoting their restoration have the potential to contribute over one-third of the total climate change mitigation that scientists say is required by 2030 to meet the objectives of the Paris Agreement.

Climate-change adaptation and mitigation will help in achieving the following objectives in the forestry sector:

1. Achieving NDC target under forestry sector which states to create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂eq through additional forest and tree cover by 2030.
2. Combating forest degradation and deforestation by using alternate sources of energy, conserving the benefits that people get from forests, including forest carbon stocks and livelihoods.

3. Obtaining carbon finance through mechanisms such as Afforestation/ Reforestation Clean Development Mechanism (A/R CDM), Reducing Emissions from Deforestation and Degradation in developing countries (REDD+), Compliance and Voluntary Carbon Markets.
4. Improving livelihood through Minor Forest Produce
5. Gram sabha based forest governance

Climate change adaptation and mitigation contributes to the following Sustainable Development Goals (SDGs):

SDG 1 - End poverty in all its forms everywhere – Support to the Self Help Groups (SHGs) and promotion of alternative livelihood programmes at the village levels are directly contributing to reduce poverty in the project areas.

SDG 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture – Through enhanced water availability, Integrated Pest Management and distribution of improved crop varieties efforts have been made to enhance food security and nutrition at the local levels across India.

SDG 13 - Take urgent action to combat climate change and its impacts – All the components of watershed management programmes are directly enhancing the capacities of the ecosystems and the associated local communities to tackle the impacts of the climate change and also help in adaptation programmes.

SDG 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss – Through afforestation, Assisted Natural Regeneration and Plantations watershed management programmes are contributing to restoration and protection of terrestrial ecosystems and sustainable forest management.

SDGs have strong resonance with Aichi Biodiversity Targets which in turn have been integrated into National biodiversity targets (NBTs) that needs to be achieved till 2020. The twelve NBTs include biodiversity awareness, biodiversity valuation & poverty alleviation, safeguarding natural habitats, managing invasive species, sustainable landscapes, protected areas, managing genetic diversity, ecosystem services, access and benefit sharing, inclusive governance, protecting traditional knowledge and resource mobilization.

Outcomes

This thematic track will help the forestry sector in developing strategies which will further enable achieving the following targets:

1. Strategies to achieve the National Biodiversity Targets.
2. Strategies to achieve the Sustainable Development Goals (SDG 1, SDG 3, SDG 13 and SDG 15)
3. Strategies to achieve the NDC targets to create an additional carbon sink of 2.5 to 3 billion tonnes of CO_{2e} through additional forest and tree cover by 2030.
4. Strategies to improve the livelihood of forest dependent communities

5. Develop models for Gram Sabha based forest governance.

The strengths, gaps and opportunities of the climate change adaptation and mitigation by forestry sector will be discussed in the proposed thematic track on "**Forest - a tool for adaptation and mitigation of climate change**" at World Sustainable Development Summit, 2020 at India Habitat Centre, New Delhi. This session will feature participation of 15-20 people from the Ministry of Environment, Forests and Climate Change, policy makers, officials from State Forest Departments, other international organizations like GIZ, DFID and USAID; and TERI.

Round table discussion

A round table discussion will be conducted on "**Need of capacity building for forestry professionals and community for mitigating climate change**" at World Sustainable Development Summit, 2020 at India Habitat Centre, New Delhi. **This discussion will feature participation of 15-20** people from the Ministry of Environment, Forests and Climate Change, policy makers, officials from State Forest Departments, other international and development organizations like GIZ, DFID and USAID; and TERI.

The session will help in achieving the following objectives:

1. Capacity building programmes on methodology for assessment of forest carbon stock.
2. Capacity building programmes related to development of quality planting material.
3. Developing models for Gram sabha based forest governance
4. Capacity building programmes on economic valuation of ecosystem services.
5. Capacity building programmes on livelihood development of communities.